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acre-feet (AF). The volume of water that covers 1 acre to a depth of 1 foot; approximately 325,851 gallons.

adjudicate. To be determined by a court of law or judges.

advanced wastewater treatment. A process added to normal wastewater treatment processes to further reduce concentrations in constituents of concern.

alluvial groundwater. Shallow groundwater aquifer associated with a stream channel. In Colorado, alluvial groundwater is considered a tributary water source.

appropriation doctrine. The process of adjudicating water rights in Colorado. Rights are granted on a “first in time, first in right” basis.

aquifer. A geologic formation sufficiently permeable to yield water to wells and springs.

augmentation plan. A court-approved plan that sets forth methodologies to reuse water while keeping the stream system whole to protect other water rights.

base load water. Water use that is relatively consistent throughout the year. Coincides with indoor water use and is not dependent on weather (temperature, precipitation, etc.).

bedrock aquifer storage. The method of delivering water into the aquifer through wells so that water can be stored underground with no evaporative losses.

Best Management Practices (BMPs). Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from

development. BMPs are categorized as structural or non-structural.

big game. Larger species of wildlife that are hunted, such as elk, deer, bighorn sheep, and pronghorn antelope.

breccia. Zones of broken up rock formed in fault zones.

carry-over storage. The storage that remains in a reservoir after satisfying the demands on a reservoir. Carry-over storage is one of the primary functions of a reservoir to allow excess water to be captured in wet years and stored for use in dry years.

cfs. cfs is an acronym for cubic feet per second. A cubic foot per second is one cubic foot of water passing by a single point for one second. It is the standard unit of measure for flowing water. A flow rate of 1 cfs means that 7.48 gallons passed by a point of reference in 1 second or 448.8 gallons of water in 1 minute.

colluvium. Accumulation of weathered materials often including rock fragments and soil.

Colorado-Big Thompson (C-BT) Project. The C-BT diverts Colorado River water through a transmountain diversion (the Alva B. Adams Tunnel) to farms and cities in northeastern Colorado. The C-BT is a complex system of reservoirs, pumps, pipelines, canals and other water structures for collecting and distributing water and generating hydroelectric power. The project was constructed in 1957.

confined aquifer. An aquifer that is confined under pressure greater than atmospheric by overlying relatively impermeable strata.

conjunctive use. The combined beneficial use of surface water and groundwater supplies by integrating the use of both systems (e.g., deep well injection of surface water supplies).

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consumptive use. Consumptive use is the amount of water that does not return to its source after it has been diverted and put to beneficial use. Not all water is physically consumed when it is diverted. Unconsumed water that returns to a water supply through a municipal or industrial wastewater system or an irrigation system's tailwater is called return flow. Return flows are then available for other downstream water users.

cultural resources. Those fragile and nonrenewable remains of human activity, occupation, or endeavor reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, and natural features that were of importance in human events.

Cultural Resources Inventory Classes.

Class I. An existing data survey. This is an inventory of a study area to (1) provide a narrative overview of cultural resources by using existing information, (2) compile existing cultural resources information, and (3) compile existing cultural resources site record data on which to base the development of the U.S. Department of the Interior, Bureau of Land Management's site record system.

Class II. A sampling field inventory designed to locate, from surface and exposed profile indications, all cultural resource sites within a portion of an area so that an estimate can be made of the cultural resources for the entire area.

Class III. An intensive field inventory designed to locate, from surface and exposed profile indications, all cultural resource sites

in an area. Upon its completion, no further cultural resources inventory work is normally needed.

cumulative effects. The collective and incremental effects on the environment of a project when added to other past, present, and reasonably foreseeable future actions. Cumulative effects are defined by the Council on Environmental Quality at 40 Code of Federal Regulations 1508.7.

dam axis. The centerline of the dam.

dead pool. The dead pool in a reservoir represents the minimum volume at which a reservoir can function. Typically when a reservoir is at or below the contents in the dead pool, water cannot be released because the base of the outlet exceeds the water surface elevation.

decant. To draw off the clear water above potentially more turbid water.

decree. An official document issued by the court defining the priority, amount, use, timing and location of a water right.

dendrocalibrated. Correlating tree ring dates with carbon dates to convert carbon dates to the Christian calendar (i.e., Before Christ [BC] or anno domini [AD]).

Denver Basin. A group of geologic formations that underlie a 6,700 square-mile area along the Front Range of Colorado that is comprised of four principal aquifers: Dawson, Denver, Arapahoe, and Laramie-Fox Hills. This aquifer system provides municipal water supplies for many entities along the Front Range.

depletion. A depletion is the amount of water lost to a river system or aquifer when water is diverted from it.

effluent. The product water from the wastewater treatment process.

effluent storage. The storage of effluent in the reservoir.

endangered species. Any species which is in danger of extinction throughout all or a significant portion of its range.

Environmental Impact Statement (EIS). A formal public document prepared to analyze the impacts on the environment of a proposed project or action and released for comment and review. An EIS must meet the requirements of the National Environmental Policy Act of 1969, as amended, Council on Environmental Quality guidelines, and directives of the agency responsible for the proposed project or action.

Environmental Pool. Denver Water is proposing to create an additional 5,000 acre-feet (AF) of storage in Gross Reservoir, as mitigation, to enhance aquatic habitat in South Boulder Creek downstream of the reservoir. This additional storage would be filled with water provided by the cities of Boulder and Lafayette, and released for environmental purposes. None of Denver Water's existing or future water supply would be stored in this 5,000-AF "Environmental Pool."

ephemeral stream. An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a resource of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

exchange. An exchange is an agreement between parties where water can be diverted or stored at one point in exchange for an equivalent amount of water being released or bypassed at another point on a river system. In an

exchange, the diversion or storage of water and the release or bypass of water from another point must occur simultaneously to prevent injury to other water users.

firm yield. The measure of a water collection system's ability to reliably supply water to meet demand during drought periods.

gaining reach. The description of stream or river reaches that receive water from an underlying aquifer.

impact. The effect, influence, alteration, or imprint caused by an action.

injury. Injury is the act of depriving senior water right owners of their full water right. New water rights, changes of water rights, and exchange and substitution agreements are only allowed if they do not injure other water users or uses.

in-priority. A legal term in the Colorado Appropriations System that denotes a time when water can legally be taken from a river by an existing water right. Conversely, out-of-priority is used to denote the time when water cannot legally be taken from a river by an existing water right (without augmentation).

intermittent stream. An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

lawn irrigation return flow (LIRF). The portion of water that is applied to residential lawns but that is not consumed by the grass.

losing reach. The description of stream or river reaches that feeds water to an underlying aquifer.

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mitigation. Alleviation or lessening of possible adverse effects on a resource by applying appropriate protective measures. Adverse effects can be rectified by either repairing, rehabilitating, or restoring affected environment and through compensation of the adverse effects by replacing or providing substitute resources or environments.

National Environmental Policy Act of 1969, as amended (NEPA). Public Law 91-190. Establishes environmental policy for the nation. Among other items, NEPA requires Federal agencies to consider environmental values in decision-making processes.

National Register of Historic Places (NRHP). A listing of architectural, historical, archaeological, and cultural sites of local, State, or national significance, established by the National Historic Preservation Act of 1966, as amended (NHPA) and maintained by the National Park Service.

NRHP Eligibility Determinations per Section 106 of the NHPA are as follows:

Centennial Farm. An evaluation of NRHP eligibility has not been made by either the State Historic Preservation Officer (SHPO) or the field recorder, but the property is commemorated as a farm that has been within the same family for at least 100 years.

Field Needs Data. Property has been recommended to need additional data by the recorder, but SHPO concurrence has not been obtained.

Field Not Eligible. Property has been recommended to be not eligible for the NRHP by the recorder, but SHPO concurrence has not been obtained.

Listed on NRHP. Property has been formally nominated and listed on the NRHP.

Listed on the State Register. Property has been formally nominated and listed on the State Register of Historic Places.

No Determination. An evaluation of NRHP eligibility has not been made by either the SHPO or the field recorder.

Non-Contributing Segment/Officially Eligible. Portion of site documented has been determined to be a non-contributing segment of a property that has otherwise been determined by the SHPO to be eligible for the NRHP.

Officially Eligible. Property has been determined eligible for listing on the NRHP by the SHPO.

Officially Eligible to the State Register. Property has been determined eligible for listing on the State Register of Historic Places by the SHPO.

normal water surface elevation. In hydrologic terms, the lowest crest level of overflow on a reservoir with a fixed overflow level (spillway crest elevation). For a reservoir whose outflow is controlled wholly or partly by movable gates, siphons, or other means, it is the maximum level to which water may rise under normal operating conditions, exclusive of any provision for flood surcharge.

ogee-crested spillway. A dam spillway that has an “S” curved shape in its cross-section. Gross Dam has an ogee-crested spillway section.

out-of-priority. A legal term in the Colorado Appropriations System that denotes a time when water cannot legally be taken from a river by an existing water right (without augmentation). Conversely, in-priority is used to denote the time when

water can legally be taken from a river by an existing water right.

paleontological resource. A site containing non-human life of past geological periods, usually in the form of fossil remains.

perennial stream. A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

potable water. Water supplies that meet all applicable drinking water standards.

potentiometric surface. The water level elevation that coincides with the hydrostatic pressure level of the water in the aquifer.

priority system. The priority system was established when Colorado was still a territory to solve disputes over ownership and use of water. The system prioritizes use of water based upon who used water first. Those who put water to beneficial use first retain the senior right to continue using that water before newer users. When there is not enough water to satisfy all of the water users, the junior, or most recent user, must curtail or forego use until senior rights are fulfilled.

probable maximum flood (PMF). The maximum runoff condition resulting from the most severe combination of hydrologic and meteorologic conditions that are considered reasonably possible for the drainage basin under study.

raptor. Bird of prey with sharp talons and strongly curved beaks (e.g., hawks, owls, vultures, and eagles).

raw water. Surface water or groundwater in its natural state, prior to treatment. Finished water has been treated and is ready to be delivered to customers.

reserve pool. A volume of water that is maintained in a reservoir under normal circumstances and is available as an emergency water supply under extreme drought conditions.

return flow. Water that returns to streams and rivers after it has been put to use is called a return flow. In most cases when water is used, not all of it is consumed and the remainder is returned to lakes, rivers or streams. When irrigating fields, for example, some water will typically flow off the land (referred to as tail water) and return to a waterway. Another portion will return after seeping into the ground, slowly percolating back to streams as groundwater.

riparian. Riparian areas are a form of wetland transition between permanently saturated wetlands and upland areas. These areas exhibit vegetation or physical characteristics reflective of permanent surface or subsurface water influence. Normally describes plants of all types that grow rooted in the water table or subirrigation zone of streams, ponds, and springs.

riparian/aquatic system. Interacting system between aquatic and terrestrial situations. Identified by a stream channel and distinctive vegetation that requires or tolerates free or unbound water.

scoping process. An early and open public participation process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.

shears. Breaks in the rock that show evidence of movement, although the amount

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and direction of movement are not discernable.

significant. An action that is analyzed in the context of the proposed action and the severity of the effects, either beneficial or adverse. Significance exists when the effects on the quality of the environment are likely to be highly controversial.

strategic water reserve. A water supply reserve to help protect against uncertainties in planning and emergencies in operating water supply infrastructure. It can also be termed “safety factor.”

stream reach. A defined, continuous segment of a stream.

substitution. Similar to an exchange, a substitution involves taking water from one point of diversion while releasing water from another source to satisfy downstream senior rights. In a substitution, the diversion and the release do not happen at the same time. Substitutions occur mostly between reservoirs. Instead of releases of water occurring at the same time as the diversion, releases will take place at specified times in the future or as calls come on the river and the demands necessitate releases.

terminal storage. A facility which provides final water storage prior to use.

threatened species. Any species or a significant population of that species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

transbasin/transmountain diversion. A transbasin diversion is the removal of water from one river basin to another river basin. A transmountain diversion is the removal and transport of water

across the Continental Divide. These diversions of water are 100 percent consumptive since no water from the diversion will return to the basin of origin’s waters as return flow.

tributary water. In Colorado, considered to be waters of the State that are subject to the Colorado Prior Appropriation Doctrine.

unconfined aquifer. An aquifer in which the water table varies depending on areas of recharge and discharge, pumpage from wells and permeability, and is at atmospheric pressure.

vegetation type. A plant community with immediately distinguishable characteristics based upon and named after the apparent dominant plant species.

visual resources. The visible physical features on a landscape (e.g., topography, water, vegetation, animals, structures, and other features) that comprise the scenery of the area.

Water Court. Water Court is the mechanism by which water rights are adjudicated and therefore officially recognized by the State of Colorado. Water judges are district judges appointed by the Colorado Supreme Court and have jurisdiction in the determination of water rights, the use and administration of water, and all other water matters within the jurisdiction of the water divisions.

Windy Gap FIRMing Project (WGFP). The WGFP is located just west of the Town of Granby in Grand County, Colorado. It consists of a diversion dam on the Colorado River that creates the 445-acre-foot Windy Gap Reservoir, pumping plants, and a 6-mile pipeline to Lake Granby. Water is pumped from the reservoir to Lake Granby, where it is stored for delivery to northeastern Colorado through the Colorado-Big Thompson Project facilities.